

Family ANCYLIDAE

**Ancylus hendersoni* Walker. Lake Iris, altitude 4285 feet.

Family VALVATIDAE

Valvata lewisi Curr. Hibernia, Mildred, and Patricia Lakes.

PELECYPODA

Family SPHAERIIDAE

Pisidium compressum Prime. Unnamed lake north of Geikie.

**Pisidium variabile brevis* St. Lakes Caledonia and Hibernia.

Pisidium scutellatum St. Lake Patricia.

**Pisidium roperi* St. Lake between Patricia and Pyramid Lakes.

**Pisidium tenuissimum* Prime. Edith and the larger Trefoil Lake. Unnamed lake north of Geikie.

**Pisidium rotundatum* Prime. Larger Trefoil Lake; lake between Patricia and Pyramid Lakes.

Those species marked with an asterisk are recorded for the first time from the Mackenzie River drainage. The discovery of *Ancylus hendersoni* Walker, in this region is of some interest, since this genus, in its modern usage, has only once been recorded from the North American continent. The previous record being from Eldora Lake, Boulder Co., Colo. (Occ. Papers, Mus. Zool., Univ. Mich., No. 165, 1925.) Dr. Walker very kindly identified this species for me.

SOME MOLLUSKS FROM WESTERN CANADA

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In the course of an investigation into the constitution, origin and ecology of the mollusk fauna of the northern part of North America, a list was made of the species in my collection from the Transition life-zone. Since this list includes a number of species which have never been recorded from this region, considerably extends the known distribution of others, and gives

precise localities of ecological value, it has been thought worth while to publish it. The collecting was done wholly within the Hudson Bay drainage. A number of species are recorded from Indian Bay station, Manitoba. This is situated on the extreme eastern boundary of the Transition Zone, and a number of eastern and northern species occur at this point.

As is well known the Transition Zone includes southwestern Manitoba and a large part of central Saskatchewan and Alberta. This is a flat plain, having no outcrops of bedrock, such as characterize the Canadian Zone to the east. As a result of the conformation of the land, what lakes are now in existence are shallow. Lake Winnipeg, the largest lake in the region, is about two hundred and fifty miles in length. Grand Beach, Victoria Beach, and Matlock, where some collecting was done, are situated on the southern shore of this lake. In addition there are numerous other standing bodies of water, including sloughs and pond-like lakes, the northern end of Pelican Lake, Ninette and Jackfish Lake (Township 18, Range 8 east of the Principal meridian) belong to the latter type. The rivers of this region are usually of a slow meandering type. As regards the vegetation, this is an area of transition between the northern forested region and the dry southern plains. The forest cover is typically deciduous poplar (*P. tremuloides*) predominating.

At Indian Bay, Manitoba (also called Waugh), an effort was made to obtain a sample of the mollusk fauna from as many terrestrial habitats as possible. The results seem to show that, in this district at least, the local distribution of the terrestrial forms is affected not so much by the character of the forest cover as by the available moisture. Two small islands in Indian Bay were examined, and it is of interest to note that the larger of the two, about one hundred yards in length, had a terrestrial mollusk fauna essentially the same as that found on the mainland. The smaller island was less than half the size of the other and much dryer, with the result that species having some tolerance of comparative dryness, particularly *Vallonia costata* Müll, predominated.

For simplicity in this preliminary list, the classification used

by Dall (1) has been adopted with certain modifications. New records for each province are indicated by an asterisk. I am indebted to Drs. Bryant Walker, Victor Sterki and P. C. Baker for aid in the determination of many of these shells, and to Miss Ruby Bere and Mr. R. D. Bird for the collection of certain shells.

GASTROPODA

Family HELICIDÆ

Vallonia costata (Müll.). Manitoba: Indian Bay station; St. Vital; Selkirk; Treesbank; Ninnette, in the Tiger Hills, and along the shores of Pelican Lake; Beulah Birtle.

*Saskatchewan: Theodore, shore of Whitesand River. *Alberta: Edmonton.

Family PUPILLIDÆ

Vertigo gouldii (Binney). *Alta: Edmonton, willow habitat south of Saskatchewan River.

Family COCHLICOPIDÆ

Cochliopa lubrica (Mull.). Man.: Indian Bay station; Winnipeg; between Navin and St. Vital; Grand Beach; Birds Hill; Treesbank; Ninette; Birtle.

Family ZONITIDÆ

Vitрина limpida Gould. Man.: Indian Bay station; Aweme.

Vitrea hammonis (Strom). Man.: Ninnette.

Euconulus fulvus (Drap.). *Alberta: Edmonton.

Zonitoides nitida (Mull.). Man.: Birtle.

Zonitoides arborea (Say). Man.: Indian Bay station; Ninnette. Alta.: Edmonton.

Zonitoides exigua (Stimp.). *Man.: Ninnette.

Family ENDODONTIDÆ

Pyramidula cronkhitei anthonyi Pils. Man.: Indian Bay station; St. Vital; Birds Hill; Grand Beach; Treesbank; Ninnette; Birtle. Alta.: Edmonton.

Punctum pygmaeum (Drap.). *Alta.: Edmonton, on the banks of the Saskatchewan River.

Family SUCCINEIDAE

Succinea hawkinsii Baird. Man.: Ninnette, near Round Lake; Birtle.

Succinea avara Say. Man.: Grand Beach; Ninnette; Beulah; Birtle.

Succinea ovalis Say. Man.: Indian Bay station; Winnipeg; Selkirk; Grand Beach; Matlock; Aweme; Ninnette; Birtle.

Family LYMNÆIDAE

Lymnaea stagnalis appressa Say. Man.: Indian Bay station; Winnipeg, Sturgeon Creek; St. Norbert, La Salle R.; Lockport; Clandeboye, Muckle Creek; Grand Beach, the Grand Marais; Jackfish Creek near Jackfish Lake; Victoria Beach; Treesbank; Souris River; Baldur, slough near Cobbs Lake; Ninnette, marsh at northern end of Pelican Lake, slough five miles north of Ninnette; Douglas Lake, near Onah. Sask.: Theodore, Powells Lake; Ingebright, which is between Swift Current and Medicine Hat.

Lymnaea caperata Say. Man.: Ninnette, marshy area at northern end of lake, abundant in hay meadow between Pelican and Round Lakes.

Lymnaea umbilicata C. B. Adams. *Man.: Birtle, small marsh along edge of Birdtail Creek. This species is recorded from the Hudson Bay drainage for the first time. Determination by Baker.

Lymnaea parva sterkii Baker. Man.: Birtle, small marsh along the edge of Birdtail Creek. Recorded from the Hudson Bay drainage for the first time.

Lymnaea parva Lea variety. Man.: Ninnette, wet portion of the hay meadow between Round (also known as Square) and Pelican Lakes.

Lymnaea dalli Baker. *Man.: Victoria Beach. This species occurs in a number of situations in the marsh on the western side of the peninsula at the neck. This has only been recorded twice before from Canada, see Huntsman (2, p. 8) and Mozley (3).

Lymnaea lanceata Gould. *Man.: Indian Bay station. This species was abundant in certain portions of a marsh at mile 15,

G. W. W. D. Ry., containing Typha and the calla lily (*Calla palustris*). Recorded from the Hudson Bay drainage for the first time.

Lymnæa humilis modiocella Say. Man.: Ninnette, near Round Lake.

Lymnæa obrussa exigua Lea. Man.: Indian Bay station, on protected shore in Indian Bay. St. Norbert, La Salle River; Balsam Bay, creek running into the Grand Marais, two miles east of Balsam Bay station; Ninnette, near Round Lake, immature, identity somewhat doubtful.

Lymnæa palustris (Mull.). Man.: Indian Bay station, found in one habitat only, a small stagnant pool; Winnipeg, Catfish Creek; St. Vital; St. Norbert, La Salle River; Clandeboye, Muckle Creek; Goldeye Lake, near mouth of Red River; Matlock; Balsam Bay, small pond on creek running into the Grand Marais, two miles east of Balsam Bay station; Jackfish Lake, and creek; Steep Rock; Aweme, slough near tamarack swamp; Ninnette, commonly along marshy shores, Pelican Lk.; Some of the Ninnette shells were near *blatchleyi* Baker. Sask.: Theodore, Whitesand River. Alta.: Edmonton, abundant in sloughs south of Edmonton.

Lymnæa vehlii "Beck" Moll. *Man.: Victoria Beach. Small shallow Bay on shore of Traverse Bay, one mile south of Elk Island; Ninnette, in the somewhat more open portions of the marsh at the northern end of Pelican Lake; identity somewhat doubtful; Birtle, Birdtail Creek, some of these specimens were near *pingelii* "Beck" Moll.

Lymnæa vahlii arctica Lea. *Man.: Grand Beach.

Lymnæa catascopium Say. Man.: Victoria Beach, abundant on an exposed boulder shore on the northwest side of the peninsula.

Lymna emarginata Say. Man.: Victoria Beach.

Family PLANORBIDÆ

Planorbis antrosus Conrad. Man.: Birtle, Birdtail Creek, some shells approaching *portagensis* Baker.

Planorbis antrosus striatus Baker. *Man.: Indian Bay station, Falcon Bay.

Planorbis campanulatus variety. Man.: Indian Bay station; Falcon Bay, amid a thick bed of *Zizania* and *Utricularia*; Snake Lake, on *Zizania*. These shells belong to a new variety shortly to be described by Miss M. L. Winslow of the Museum of Zoology, University of Michigan.

Planorbis exacuus Say. Man.: Indian Bay station, Falcon Bay, Snake Lake; Grand Beach; Douglass Lake near Carberry.

Planorbis hirsutus Gould. Man.: Indian Bay station, Falcon Bay, among *Zizania* and *Utricularia*; Jackfish Creek near Jackfish Lake; Victoria Beach marsh at the neck of the peninsula.

Planorbis deflectus Say. *Man.: Jackfish Lake; Victoria Beach, pond in interior of the peninsula.

Planorbis parvus Say. Man.: Indian Bay station; St. Norbert, La Salle River; Red River, below Selkirk; Goldeye Lake, southeast of Netley; Muckle Creek, near Clandeboye; Treesbank; Souris River; Douglas Lake, near Onah; Victoria Beach; Balsam Bay, creek running into the Grand Marais, two miles east of Balsam Bay station; Jackfish Creek, near Jackfish Lake; Ninnette, Pelican Lake. Sask.: Theodore, Whitesand River. Alta.: Edmonton, sloughs south of this city.

Planorbis umbilicatellus Cockerell. Man.: St. Vital.

Segmentina armigera Say. Man.: Grand Beach, the Grand Marais; Ninnette, northern end of Pelican Lake. The previous records of this species from Manitoba must be treated as doubtful, as they may refer to the more recently described *crassilabris* Walker.

Segmentina christyi Dall. Man.: Beulah, Wade's slough.

Segmentina crassilabris Walker. Man.: Arnaud; Balsam Bay, small pond in creek running into the Grand Marais, two miles east of Balsam Bay station.

Family PHYSIDAE

Physa heterostropha Say. Man.: Winnipeg, Sturgeon Creek.

Physa gyrina Say. Man.: Ninnette, the dominant mollusk among the dense growth of *Potamogeton* throughout the northern end of Pelican Lake.

Physa gyrina hildrethiana Lea. *Man.: Winnipeg, Catfish Creek.

Physa integra Halc. Man.: Clandeboye, Muckle Creek; Grand Beach, the Grand Marais; Victoria Beach; Birtle, Birdtail Creek.

Family ANCYLIDAE

Ferrissia rivularis Say. Man.: Birtle, Birdtail Creek.

Family AURICULIDAE

Carychium exile H. C. Lea. Man.: Ninnette.

Family VALVATIDAE

Valvata tricarinata Say. Man.: St. Norbert, La Salle River; Clandeboye, Muckle Creek; Victoria Beach; Treesbank, Souris River. Sask.: Theodore, Whitesand River.

PELECYPODA

Family SPHAERIIDAE

Sphaerium sulcatum Lam. *Sask.: Theodore, Whitesand River.

Sphaerium acuminatum Prime. *Man.: Victoria Beach.

Sphaerium tenue Prime. Man.: Victoria Beach, small shallow inlet on the shore of Traverse Bay, one mile from Elk Island. Sterki (4, p. 438) apparently does not consider the records quoted by Dall (1, p. 139) sufficiently authenticated to consider.

Musculium transversum Prime. Man.: Matlock.

Musculium truncatum Linsley. Man.: Victoria Beach, marsh at mile 68.8.

Musculium ryckholti Normand. *Man.: Victoria Beach, marsh at mile 68.8; Ninnette, slough one mile northeast of Ninnette Sanitorium.

Psidium compressum Prime. *Man.: Birtle, Birdtail Creek. *Sask.: Theodore, Whitesand River.

Psidium fallax St. *Sask.: Theodore, Whitesand River.

Psidium roperi St. Man.: Victoria Beach, marsh at mile 68.8. Sterki (4, p. 458) records this species from "Manitoba" but fails to state any precise locality.

Psidium subrotundum Sterki. *Man.: Ninnette, slough one mile north of Ninnette Sanitorium.

LIST OF REFERENCES

1. Dall, W. H. Harriman Alaska Expedition, XIII, Land and Fresh Water Mollusks, 1905.
2. Huntsman, A. G. The Quill Lakes of Saskatchewan and their Fishery Possibilities. Contributions to Canadian Biology, N. S., Vol. 1, No. 9.
3. Mozley, Alan. Preliminary List of the Mollusca of Jasper Park. NAUTILUS, Oct., 1926.
4. Sterki, Victor. A Preliminary Catalogue of the North American Sphæriidæ. Ann. Carnegie Mus. X, 1916.

CORRESPONDENCE FROM MEXICO

After a week of good collecting at Cordova, Dr. H. Burrington Baker proceeded to Necaxa in the State of Puebla where he made his headquarters at the plant of the Mexican Light and Power Co. Here he was laid up for a time.

"Before indulging in my rest, I pressed the snails rather hard for four weeks, so have a pretty fair series of samples of the fauna around Necaxa, although I would have liked to get in more than one day at my lowest level, 675 meters (2230 ft.). The mesa of Necaxa with the residences of the officials and the club is at about 1360 meters (4490 ft.), while the hills nearby go up quite rapidly to 1725 meters (5700 ft.). Just opposite the mesa, the remnants of the dammed Rio Necaxa takes two jumps in order to reach a level of about 900 meters (2970 ft.). The narrow gauge railway from Beristain only runs once a week so could not use it much, but an inclined railroad drops from the mesa down to the bottom of the falls several times a day, so I got in quite a lot of work between 800 and 1700 meters. The mesa and its surroundings are basalt, but the hills and the lower canons (below the basalt) are highly metamorphosed shales and dirty limestones.

I feel fairly sure of the following genera from around Necaxa; I think I sent you a list of those caught at Cordoba.

Helicina, 3 or 4 species.

Schasicheila at least 2 species.

Aperostoma (*Habropoma* auct.), a beautiful little species less than half the size of *A. salleanum*.